

In The Claims:

1. (Currently Amended) A pre-crash sensing system coupled to a counter-measure system for sensing an object comprising:

a vision system producing a plurality of frames at a rate of at least about 100 frames per second;

a video processor coupled to said vision system, said video processor determining a distance, velocity and an acceleration of the object from said plurality of frames and said rate of said frames; and

a controller coupled to said vision system for deploying said counter measure in response to said object distance, object velocity and said object acceleration.

2. (Original) A system as recited in claim 1 wherein said vision system comprises a right side camera, and a left side camera.

3. (Original) A system as recited in claim 2 wherein said vision system comprises a front camera.

4. (Original) A system as recited in claim 3 wherein said front camera comprises a stereo pair of cameras.

5. (Original) A system as recited in claim 1 further comprising a forward looking radar-based system.

6. (Original) A system as recited in claim 1 wherein said counter measure comprises an airbag controller and an airbag, said airbag controller coupled to said airbag.

7. (Original) A system as recited in claim 6 wherein said airbag comprises a side airbag.

8. (Original) A system as recited in claim 7 wherein said side airbag comprises a side curtain airbag.

9. (Currently Amended) A pre-crash side-impact sensing system for an automotive vehicle for sensing an object comprising:

a camera vision system producing a plurality of frames at a rate of at least about 100 frames per second;

a video processor coupled to said vision system, said video processor determining a distance, velocity and an acceleration of the object from said plurality of frames and the rate of the frames; and

a controller coupled to said vision system for deploying said counter measure in response to said object distance, object velocity and said object acceleration.

10. (Currently Amended) A system as recited in ~~claim 10~~ claim 9 wherein said vision system comprises a right side camera, and a left side camera.

11. (Currently Amended) A system as recited in ~~claim 11~~ claim 10 wherein said vision system comprises a front camera.

12. (Currently Amended) A system as recited in ~~claim 12~~ claim 11 wherein said front camera comprises a stereo pair of cameras.

13. (Currently Amended) A system as recited in ~~claim 10~~ claim 9 further comprising a forward looking radar-based system.

14. (Currently Amended) A system as recited in ~~claim 10~~ claim 9 wherein said counter measure comprises an airbag controller and an airbag, said airbag controller coupled to said airbag.

15. (Currently Amended) A system as recited in ~~claim 15~~ claim 14 wherein said airbag comprises a side airbag.

16. (Currently Amended) A system as recited in ~~claim 16~~ claim 15 wherein said side airbag comprises a side curtain airbag.

17. (Currently Amended) A method for operating a pre-crash sensing system for an automotive vehicle having a counter-measure system, said method comprising:

generating a plurality of images of the object from an image device having a frame rate of at least 100 frames per second camera;
determining an object distance with the image device;
determining an object speed and acceleration with the image device as a function of frame rate as a function of the frame rate; and
activating the counter measure system in response to the object size, object distance and object acceleration.

18. (Currently Amended) A method as recited in ~~claim 10~~ claim 17 wherein deploying the counter-measure comprises deploying an airbag.

19. (Currently Amended) A method as recited in ~~claim 18~~ claim 17 wherein deploying an airbag comprises deploying a side airbag.

20. (Currently Amended) A method as recited in ~~claim 18~~ claim 19 wherein deploying a side airbag comprises deploying a side curtain airbag.